

Question:

Do all compounds form solutions with water?

What is a solution?

A mixture that appears to be a single substance (homogeneous) but is composed of particles of two or more substances that are distributed evenly among each other.

May 5-7:53 AM

Observation

Yellow

Liquid

[some solutions are gases (air) and some are solid (steel)]

no bubbles

see through

clear

transparent

same throughout → homogeneous

May 5-8:19 AM

Purpose: To find out if all compounds form solutions with water.

Hypothesis:

IV: Type of compound.

Sugar Control	NaCl	S	ZnO	CuSO ₄	
5	5	5	5	5	

DV: Ability to form a solution.

Constants: Temperature, Amt. of water, Method of mixing

May 5-8:24 AM

Question: Do all compounds form solutions with water?

NaCl

C₁₂H₂₂O₁₁

S₈

CuSO₄

ZnO

May 5-8:59 AM

How do you recognize a solution?

Solid Solution - Alloys like Brass

Gaseous Solution - Air

Observations of a Solution:

Clear

Yellow in color

Liquid

Has an odor.

Same consistency throughout the test tube.

May 5-9:06 AM

Solution - a mixture that appears to be a single substance (homogeneous) but is composed of particles of two or more substances that are distributed evenly amongst each other.

May 5-9:16 AM

NaCl - Table Salt
 $C_{12}H_{22}O_{11}$ - Sucrose
 S_8 - Sulfur
 $CuSO_4$ Copper Sulfate
 ZnO Zinc Oxide

May 5-11:55 AM

May 5-11:55 AM

Definition of Solution: A mixture that appears to be a single substance (homogeneous) but is composed of particles of two or more substances that are distributed evenly amongst each other.

Observations of a solution:
 cold liquid, gold colored
 room temperature, transparent,
 doesn't look thick, homogeneous,

Type of Solute	Soluble in Water?	Observations
Sugar	Yes	Clear, Transparent, Colorless, Homogeneous
Salt	Yes	Transparent, Clear, Colorless, Homogenous
Sulfur	No	Yellow on top and bottom, not mixed well, floated
Copper Sulfate	Yes	Transparent, blue, homogeneous

k Zinc Oxide - No - White, Opaque, Settles out with time

May 5-12:05 PM

May 6-8:17 AM

IV: Type of Compound

Sugar	NaCl	ZnO	$CuSO_4$	S_8
1	1	1	1	1

QV: Whether or not it is soluble in water.

Constants: amount of compound, amount of water, temperature, pressure,

Solubility of Compounds in Water

Type of Compound	Soluble in Water?	Observations
$C_{12}H_{22}O_{11}$	Yes	transparent, colorless, homogeneous,
NaCl	Yes	transparent, homogeneous, colorless
S_8	No	separated, floated, yellow clumps
$CuSO_4$	Yes	transparent, homogeneous, blue
ZnO	No	cloudy, opaque, particles settle,

May 6-8:32 AM

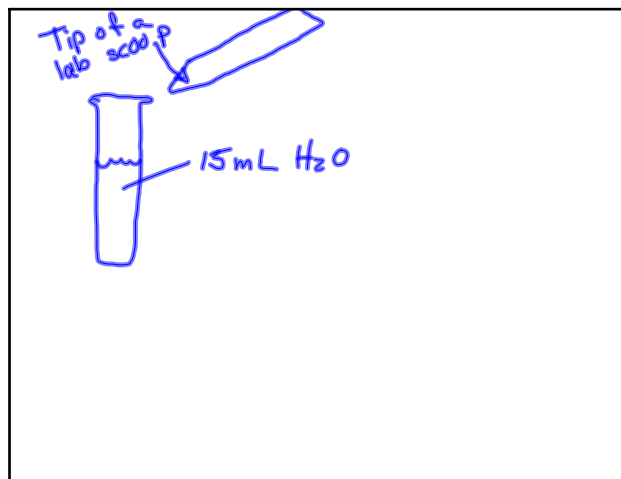
May 6-8:39 AM

IV: Type of Solute

$C_{12}H_{22}O_{11}$ Control	NaCl	S_8	$CuSO_4$	ZnO
4	4	4	4	4

OV: Whether or not a solution forms in water.

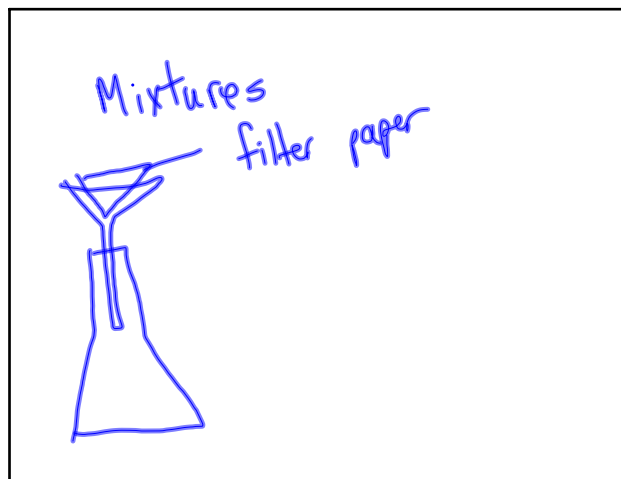
May 6-11:42 AM



May 6-11:47 AM

Type of Solute	Does it Dissolve/ form a solution?	Observations
$C_{12}H_{22}O_{11}$	Yes	Transparent, Homogeneous, Colorless
NaCl	Yes	Homogeneous, Transparent, Colorless
$CuSO_4$	Yes	Transparent Homogeneous, Blue
S_8	No	Flakes, Yellow Clumpy
ZnO	No	Suspension, white opaque, settled out

May 6-11:57 AM



May 6-12:21 PM